## GenCore version 5.1.6 Copyright (c) 1993 - 2003 Compugen Ltd.

- protein search, using sw model OM protein Run on:

August 28, 2003, 18:28:57; Search time 5.63636 Seconds (without alignments) 102.373 Million cell updates/sec

US-09-743-225-1 30 1 LKTPRV 6

Title: Perfect score: Sequence:

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

283308 seqs, 96168682 residues Searched: 283308

Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 20000000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

PIR\_76:\*
1: piri:\*
3: pir2:\*
1: pir3:\*
: pir4:\* Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

	Description	hypothetical prote	-	hypothetical prote	_	hypothetical prote	9	pyrimidine synthes	٦,	hypothetical prote		U	-	hypothetical prote		hypothetical prote		ᆽ	, hypothetical prote	hypothetical prote		hypothetical prote	heat shock protein	hypothetical prote	တ	hypothetical prote			ø	phycobilisome rod-
	A	T34260	E87641	T03030	RRWGSM	B82225	873556	A23443	н86710	S24944	T21654	D89979	S18593	T21797	A95079	F97946	T27499	T02634	T33157	F86064	S05975	T19489	A48425	C87354	D75051	875751	T32097	C75492	573286	T11967
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æ	Query Match	100.0	100.0	100.0	100.0	2.96	93.3	93.3	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	86.7	86.7	86.7	86.7	86.7	86.7	86.7	86.7	86.7	86.7	86.7
	Score	30	30	30	30	53	28	28	27	27	27	27	27	27	27	27	27	27	27	26	56	26	26	56	26	26	26	26	.26	56
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S25308 A71525 T02549 G86767 E72623	T33705 S76288 T51059 H86740 H88950	DECHLM DECKLM A23083 S12151 A47180
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3333 333 443 343 343 343 343 343 343 34	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	4 4 4 4 4 4 > 11 61 61 4 71

## ALIGNMENTS

hypothetical protein F38E1.3 - Caenorhabditis elegans

C.Species: Caenorhabditis elegans
C.Species: 20-Oct.1999 #sequence\_revision 29-Oct.1999 #text\_change 31-Jan-2000
C.Accession: 713.60
S. Le, T.
submitted to the EMBL Data Library, December 1995
A.Reference number: 221495
A.Reference number: 221495
A.Reference number: 221495

A; Status: preliminary; translated from GB/EMBL/DDBJ A; Molecule type: DNA A; Residues: 1-310 <GAT>

A; Cross-references: EMBL: U41996; PIDN: AAA83477.1; CESP: F38E1.3 C; Genetics:

A; Gene: CESP:F38E1.3 A; Introns: 14/3; 69/3; 120/3; 166/3; 255/3; 294/3 C; Superfamily: kinase-related transforming protein; protein kinase homology

Query Match

Gaps ö Query Match 100.0%; Score 30; DB 2; Length 310; Best Local Similarity 100.0%; Pred. No. 32; Matches 6; Conservative 0; Mismatches 0; Indels

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|||||| 185. LKTPRV 190 1 LKTPRV 6

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glucokinase family protein [imported] - Caulobacter 'crescentus
C; Species: Caulobacter crescentus
C; Date: 20-Apr-2001 #sequence\_revision 20-Apr-2001 #text\_change 10-May-2001
C; Accession: E87641
R; Misrman, W.C.; Feldblyum, T.V.; Paulsen, I.T.; Nelson, K.E.; Eisen, J.; Heidelberg, B.; Laub, M.T.; DeBoy, R.T.; Dodson, R.J.; Durkin, A.S.; Gwinn, M.L.; Haft, D.H.; Ko h. J.; Emolaeva, M.; White, O.; Salzberg, S.L.; Shapiro, L.; Venter, J.C.; Fraser, C Proc. Natl. Acad. Sci. U.S.A. 98, 4136-4441, 2001
A; Title: Complete Genome Sequence of Caulobacter crescentus.
A; Reference number: A87249; MUID:21173698; PMID:11259647

A; Accession: E87641

A;Status: preliminary A;Molecule type: DNA A;Residues: 1-315 <STO>

A; Cross-references: GB: AE005673; NID: 913424837; PIDN: AAK25129.1; GSPDB: GN00148

A;Gene: CC3167 C;Superfamily: glucokinase

Length 315; Score 30; DB 2; Pred. No. 33; 100.0%; 100.0%; Query Match Best Local Similarity ö

Gaps

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Pyrimidine synthesis multifunctional protein CAD - golden hamster NiContains: aspartate carbamoyltransferase (EC 2.1.3.2); carbamoyl-phosphate synthase Cispecies: Mesocricetus auratus (golden hamster) (cispecies: Mesocricetus auratus (golden hamster) (cispecies: Mesocricetus auratus (golden hamster) (cispecies: 29-Aug-1987 #sequence_revision 02-Jun-1994 #text_change 18-Jun-1999 Cispecession: A38653; A35432; PS0159; A23443; A30794; A34803; I48154 Tispeciession: A38653; A35432; PS0159; A3443; A30794; A34803; I48154 Airtle: Molecular cloning of a cDNA encoding the amino end of the mammalian multifun Aireferance number: A38653; MUID:91139675; PMID:1671675
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Status: preliminary; nucleic acid sequence not shown; translation not shown A;Molecule type: DNA A;Residues: 1-997 <HIM>A;Residues: 1-997 <HIM>A;Coss-references: EMBL:AE000023; GB:U00089; NID:g1673893; PIDN:AAB95878.1; PID:g167 A;Note: the nucleotide sequence was submitted to the EMBL Data Library, November 1996
                                A;Cross-references: GB:AE004202; GB:AE003852; NID:99655698; PIDN:AAF94377.1; GSPDB:GN
A;Experimental source: serogroup 01; strain NI6961; biotype El Tor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ritimmelreich, R.; Hilbert, H.; Plagens, H.; Pirkl, E.; Li, B.C.; Herrmann, R. Nucleic Acids Res. 24, 4420-4449, 1996
A)Title: Complete sequence analysis of the genome of the bacterium Mycoplasma pneumon A; Reference number: S73327; MUID:97105885; PMID:8948633
A; Accession: S73556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C;Species: Mycoplasma pneumoniae
A;Variety: ATCC 29342
C;Date: 27-Feb-1997 #sequence_revision 25-Apr-1997 #text_change 07-Dec-1999
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   - Mycoplasma pneumoniae (strain ATCC 29342)
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Pred. No.
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C;Superfamily: hypothetical protein MG413
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83.3%;
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ilarity 83.3%;
Conservative
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Best Local Similarity 83.3
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                               MG414 homolog C12_orf997
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308 IKTPRV 313
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14 LKTPRI 19
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A; Residues: 1-169 <BEI>
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A, Map position: 1
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C) Accession: T03030

C) Accession: T03030

S) Accession: T03030

S) Accession: T03030

S) Accession: T03030

C) Accession: T03030

S) Accession: T03030

Areliano, A.; Montgomery, M.; Molan, M.; Tung, S.; Attix, C.; Andreise, T.; Trankhei Areliano, A.; Montgomery, M.; Ow, D.; Nolan, M.; Trong, S.; Kobayashi, A.; Olsen, A.O.; Apescription: Sequence analysis of an -1 Mb region containing the MEF2B gene in 19p12.

A; Reference number: 214651

A; Accession: T03030

A; Status: preliminary; translated from GB/EMBL/DDBJ

A; Residues: 1-949 <LAMS

A; Residues: 1-949 <LAMS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RNA-directed RNA polymerase (EC 2.7.7.48) - strawberry mild yellow edge-associated virus NiAlternate names: RNA nucleotidyltransferase (RNA-directed); RNA replicase (Species strawberry mild yellow edge-associated virus (Species 130-Sep-1992 #sequence_revision 30-Sep-1992 #text_change 19-Jan-2001 (SAccession: JO1426 *Requence_revision 30-Sep-1992 #text_change 19-Jan-2001 (SAccession: Viola. 73, 475-479, 1992 (SACCESSION: Witch: 740-764, MUID:92166762; PMID:1339469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A.Molecule type: genomic RNA
A.Residues: 1-1323 <JEL>
A.Residues: 1-1323 <JEL>
A.Residues: 1-1323 <JEL>
C.Superfamily: eggplant mosaic virus RNA-directed RNA polymerase
F.605-612/Region: nucleotide-binding; nucleotidyltransferase; P-loop; RNA biosynthesis;
F.605-612/Region: nucleotide-binding motif A (P-loop)
F.608-673/Region: nucleotide-binding motif B
F.611/Binding site: ATP (Lys) #status predicted
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A;Experimental source: brain
                                                                                                                                                                                                                                                    hypothetical protein KIAA0365 - human (fragment)
C;Species: Homo sapiens (man)
C;Date: 30-Apr-1999 #sequence_revision 30-Apr-1999 #text_change 08-Oct-1999
        Gaps
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A;Introns: 434/1; 474/2; 637/1; 674/2; 834/1; 854/3
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  Mismatches
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6; Conservative
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| 150 LKTPRV 255
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275 LKTPRV 280
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81 LKTPRV 86
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Matches 6; Conserv
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Matches
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Gaps

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hypothetical protein ygiJ [imported] - Lactococcus lactis subsp. lactis (strain IL140 C; Species: Lactococcus lactis subsp. lactis C; Species: Lactococcus lactis subsp. lactis C; Species: Lactococcus lactis subsp. lactis C; Species: 13-Mar-2001 #sequence_revision 23-Mar-2001 #text_change 03-Aug-2001 C; Accession: H86710 R; Bolotin, A.; Wincker, P.; Mauger, S.; Jaillon, O.; Malarme, K.; Weissenbach, J.; Eh Genome Res. II, 731-733, 2001 A; Tille: The complete genome sequence of the lactic acid bacterium Lactococcus lactis A; Reference number: A86625; MUID:21235186; PMID:11337471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          R.Soto, M.J.; Zorzano, A.; Mercado-Blanco, J.; Lepek, V.; Olivares, J.; Toro, N. J. Mol. Biol. 229, 570-576, 1993
A.Title: Nucleotide sequence and characterization of Rhizobium meliloti nodulation A.Reference number: S35086; MUID:93156068; PMID:8429568
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Cross-references: EMBL:X66124; NID:g46324; PIDN:CAA46913.1; PID:g46326
A;Note: the nucleotide sequence was submitted to the EMBL Data Library, June 1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Cross-references: GB:AE005176; PID:g12723597; PIDN:AAK04786.1; GSPDB:GN00146
A;Experimental source: strain IL1403
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A;Experimental source: clone F32D8
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C;Species: Caenorhabditis elegans
C;Accession: T21654
R;Wilkinson, J.
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C;Date: 20-Feb-1995 #sequence_revision 20-Feb-1995 #text_change 20-Apr-2000
C;Accession: S35087; S24944
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A; Status: nucleic acid sequence not shown; translation not shown
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 2; Length 177;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 232
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          hypothetical protein 7 - Rhizobium meliloti plasmid pRmeGR4b
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Pred. No. 1.2e+02;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 27; DB;
Pred. No. 91;
1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      submitted to the EMBL Data Library, June 1996
A; Reference number: 219454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          / Match 90.0%;
Local Similarity 83.3%;
les 5; Conservative 1
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83.3%;
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LRTPRV 75
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Matches 5; Conserv
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LKTPRL 89
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A; Residues: 1-245 <WIL>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Residues: 1-177 <STO>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C; Genetics:
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; Mesidues: 2464 cMal.>
; Cross references: GB:M21927
; Simmer, J.P.; Kelly, R.E.; Rinker Jr., A.G.; Zimmermann, B.H.; Scully, J.L.; Kim, H.;
roc. Natl. Acad. Sci. U.S.A. 87, 174-178, 1990
-Title: Mammalian dihydroorotase: nucleotide sequence, peptide sequences, and evolution
Reference number: A34803; MUID:9011S834; PMID:1967494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Superfamily: rudimentary enzyme; aspartate/ornithine carbamoyltransferase homology; Babmoyl-phosphate synthase (glutamine-hydrolyzing) large chain homology; carbamoyl-phos Reyvords: hydrolase; ligase; methyltransferase; multifunctional enzyme; phosphoprotein 4-1442/Domain: carbamoyl-phosphate synthase (ammonia) homology <CRA> 4-354/Domain: carbamoyl-phosphate synthase (glutamine-hydrolyzing) small chain homolog
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gross references: GB:M11242; NID:g191330; PIDN:AAA37061.1; PID:g387067
Maley, J.A.; Davidson, J.N.
10chem. Blophys. Res. Commun. 154, 1047-1053, 1988
11che: Identification of the junction between the glutamine amidotransferase and carba
Reference number: A30794; MUID:88309082; PMID:2900634
                                                                                                                                                                                                                                                                                                                                                                               A; Molecule type: mRNA

A; Residues: 1403-2110 (WIL>

A; Residues: 1603-2110 (WIL>

A; Cross-references: GB:M33702; NID:g191172; PIDN:AAA37009.1; PID:g191173

B; Shigesada, K.; Stark, G.R.; Maley, J.A.; Niswander, L.A.; Davidson, J.N.

R; Shigesada, K.; Stark, G.R.; Haley, J.A.; Niswander, L.A.; Davidson, J.N.

A; Shigesada, K.; Stark, G.R.; Maley, J.A.; Niswander, L.A.; Davidson, J.N.

A; Title: Construction of a cona to the hamster CAD gene and its application toward defin

A; Reference number: A23443; MUID:85267690; PMID:2862577
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Molecule type: mRNA
A;Residuss: 1391-1870 <S12>
A;Residuss: 1391-1870 <S12>
A;Cross - references: GB:M28866; NID:g191363; PIDN:AAA37073.1; PID:g191364
A;Notes parts of this sequence were confirmed by peptide sequencing
B;Farnham, P.J.; Kollmar, R.
B;Farnham, P.J.; Kollmar, R.
A;Itle: Characterization of the 5' end of the growth-regulated Syrian hamster CAD gene.
A;Reference number: I48154; MUID:91190717; PMID:1982061
                                                                                                  A; Molecule type: mRNA

A; Residuae: 156-1455 < SIN>
A; Residuae: 156-1455 < SIN>
A; Cross-references: 156-1455 < SIN>
A; Cross-references: 158-195503; NID:9191332; PIDN:AAA37062.1; PID:9191333
B; Williams, N.K.; Simpson, R.J.; Moritz, R.L.; Peide, Y.; Crofts, L.; Minasian, E.; Leac Gane 94, 283-288, 1990
A; Williams and the dispersion of the dispersorotase domain within trifunctional hamster dispersorota
A; Reference number: PS0159; MUID:91078651; PMID:1979549
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;395-845/Domain: biotin carboxylase homology <BCl>
phosphate synthetase (CPS). cDNA sequence and evolution of MUID:90285162; PMID:1972379
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F;457-1801/Domain: Bacillus dihydroorotase homology <DHO>
F;1924-2222/Domain: aspartate/ornithlne carbamoyltransferase homology <ACT>
F;252/Active site: Cys #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
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Pred. No. 6.4e+02;
1; Mismatches 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               atus: translated from GB/EMBL/DDBJ
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83.3%;
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Introns: 28/1
A;Title: Mammalian carbamyl
A;Reference number: A35432;
A;Accession: A35432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Molecule type: mRNA
A; Residues: 2074-2225 <SHI>
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|64 IKTPRV 169
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Best Local Similarity
Matches 5; Conserv
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A)Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Mosidues: 1-492-KHI2-3
A;Rosidues: 1-492-KHI2-3
A;Cross-references: EMBL:AL023816; PIDN:CAA19434.1; GSPDB:GN00023; CESP:T05G11.1
A;Experimental source: clone T05G11
                                                                                                                                                                                                                                       A;Residues: 1.492 <WIL>
A;Cross-references: EMBL:281529; PIDN:CAB04303.1; GSPDB:GN00023; CESP:T05G11.1
A;Experimental source: clone F35E8
                                             C.Species: Caenorhabditis elegans
C.Species: Caenorhabditis elegans
C.Species: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 29-Oct-1999
C.Accession: T21797; T24551
Submitted to the EMBL Data Library, November 1996
A.Reference number: 219472
A.Recession: T21797
A.Scatus: preliminary; translated from GB/EMBL/DDBJ
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                                - Caenorhabditis elegans
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Pred. No. 2.5e+02;
1; Mismatches 0;
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Pred. No. 3.1e+02;
2; Mismatches 0;
                                                                                                                                                                                                                                                                                                                         submitted to the EMBL Data Library, June 1998
A;Reference number: 219906
A;Accession: T24551
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Best Local Similarity 83.3%;
Matches 5; Conservative
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Best Local Similarity 66.7
Matches 4; Conservative
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438 LKTPRM 443
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562 IKTPRI 567
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                                                                                                                                                                                                                        A; Molecule type: DNA
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(Species: Staphylococcus aureus
(Species: 10-May-2001 #sequence_revision 10-May-2001 #text_change 22-Oct-2001
(SAccession: D8979
(Starcession: D8979
(Starceda, M.; Ohta, T.; Uchiyama, I.; Baba, T.; Yuzawa, H.; Kobayashi, I.; Cui, L.; Oguc
(S.; Shiba, T.; Hattori, M.; Ogasawara, N.; Hayashi, H.; Hiramatsu, K.
(C.; Shiba, T.; Hattori, M.; Ogasawara, N.; Hayashi, H.; Hiramatsu, K.
(A.; Shiba, T.; Hattori, M.; Ogasawara, N.; Hayashi, H.; Hiramatsu, K.
(A.; Shiba, T.; Hattori, M.; Ogasawara, N.; Hayashi, H.; Hiramatsu, K.)
(A.; Reference number: A89758; MUID:21311952; PMID:11418146
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Chloramphenicol resistance protein - Streptomyces lividans

Chloramphenicol resistance protein - Streptomyces lividans

C;Species Streptomyces lividans

C;Species Streptomyces lividans

C;Accession: S18593

R;Dittrich, W.; Betzler, M.; Schrempf, H.

Mol. Microbiol. 5, 2789-2797, 1991

A;Title: An amplifiable and deletable chloramphenicol-resistance determinant of Streptom A;Reference number: S18593; MUID:92140043; PMID:1779766
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A;Experimental source: strain N315
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C;Superfamily: Streptomyces lividans chloramphenicol resistance protein
C;Keywords: antibiotic resistance; transmembrane protein
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C;Genetics:
A;Gene: CESP:F73D8.3
A;Map position: 5
A;Introns: 61/1; 83/3
C;Superfamily: Caenorhabditis elegans hypothetical protein F32D8.3
                                                                                                                               Length 245;
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Pred. No. 2e+02;
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                                                                                                                             Score 27; DB 2; I
Pred. No. 1.3e+02;
1; Mismatches 0;
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Pred. No. 2e+02;
1; Mismatches
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83.3%;
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Best Local Similarity 83.3%;
Matches 5; Conservative
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Best Local Similarity 83.3%;
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Best Local Similarity 83.3
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LKTPRL 175
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200 LKTPRL 205
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32 LKTPKV 37
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A; Residues: 1-388 <KUR>
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A;Molecule type: DNA
A;Residues: 1-392 <DIT>
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Gaps

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**Gap**8

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hypothetical protein typa [imported] - Streptococcus pneumoniae (strain R6) C; Species: Streptococcus pneumoniae

RESULT 13

Search completed: August 28, 2003, 18:39:01 Job time : 7.63636 secs